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Wasted: Wastewater, Hygiene Theatrics, and Contaminated Imaginaries

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ABSTRACT This collaborative essay takes up three pungent streams of wastewater to address how environments, politics, communities, and power are mediated by liquid waste: urine, feces, and everything else recklessly flushed down toilets, washed down drains, stored in pits, and dumped in the ocean. "Wasted" looks to the multi-scalar worlds of wastewater by centering waste sites and COVID-19 concerns regarding wastewater virality. First, our tour of Santa Barbara's El Estero Water Resource Center brings us to the variegated, embodied, multi-sensory, and multispecies communities of wastewater. El Estero provides an odoriferous infrastructural current through which we follow wastewater and the socialites and environments it mediates on California's Central Coast. We then move to the ways wastewater has been interwoven with global pandemic fears to address how human waste retains infectious COVID-19 viral material even after it has been flushed away. COVID-19, in other words, haunts the infrastructural ports through which wastewater is funneled. We conclude with wastewater's epochal effects within the Anthropocene. Throughout, we offer the term "hygiene theatrics" to identify how the performance of hygiene, cleanliness, and purity rely on dichotomous constructions of dirtiness and cleanliness that reinforce structural power dynamics including racism and homophobia. "Wasted" is a collaborative feminist and queer experiment in form and methodology that explores wastewater as both a material reality and a theoretical apparatus that is informed by and contributes to the environmental humanities, infrastructure studies, and feminist and queer science studies.

KEYWORDS hygiene theater, queer, water, sexuality, waste, COVID-19, infrastructure, wastewater, California, HIV/AIDS, Anthropocene

> "Water, the condition of all possibility, has become the unheeded recipient of the material wastes and toxins of late-capitalist production and consumption. Even as its continual movement between bodies and across borders defies the economic mechanics of quantification and instrumentalization, water is commodified, turned into measurable units, and sold for profit. As it changes forms and cycles through various manifestations of bodies, societies, and polities, diffusing, spreading, and bringing back to us the very matter we cast away, water shows us that at every level we are of water. But to harm water is not simply to harm ourselves; it is, as so many ecologists have shown, to harm the conditions for the proliferation of life itself."
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> – Mielle Chandler and Astrida Neimanis[1]

> "All is not well with the waters of the world—nor with the social relations mediated by their flows."
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> – Cecilia Chen, Janine MacLeod, and Astrida Neimanis[2]

Introduction

Wastewater is everywhere. Experiences of place, embodiment, identity, and environment are mediated by wastewater. The pungent life of liquid waste (urine, feces, and everything else recklessly flushed down toilets, washed down drains, stored in pits, and dumped in the ocean), as Myra Hird writes, is "world-making."[3] Wastewater materially sutures bio-, geo-, and stratospheres and its flows between these spheres "mobilize relations."[4] Wastewater interstitially streams between and among the human, more-than-human, aqueous, terrestrial, and microbial; it thus connects and fosters a global system that realizes the various entanglements of human bodies, oceans, interior and arterial waterways, and public water supplies. Wastewater comprises many bodies of water—the human body, of course, being one such vessel connected to countless other human and nonhuman ports. It is this movement across and between bodies conceived of as discreet, we argue, that stokes fears of contact with wastewater, and its perceived (viral) contamination. In what follows, we consider the fears of non-hygienic contamination that invariably shape a relationship with wastewater in the United States. We explore the realities and insinuations of wastewater first at the local level before moving outward to think through the visceral fears surrounding wastewater realized by the uncontained spread of COVID-19.

Wastewater is destabilizing. Waste, as Sarah A. Moore reminds us, can disturb set values, politics, and notions of stability.[5] This point is echoed by Hird's provocation that the concept of waste is always already predicated on indeterminacy, which feminist epistemologies find potentially emancipatory.[6] Bringing the rich theorizing about waste to an aqueous analysis of (waste)water, we dive into the multi-sensory and multi-scalar

worlds of wastewater, and the ways that it saturates infrastructural and viral discourses. Fears of wastewater and its potential for shapeshifting bodies of all sorts contaminate and seep into environmental and health public discourses, particularly those related to the COVID-19 pandemic. Shit is, it turns out, very good to think with, learn from, and (cognitively) wade into.

Wastewater is media.[7] Reconceptualizing wastewater as media enables us to consider what wastewater communicates about bodies and societies; how it resides in the middle, between human bodies and other bodies of water; how it is remediated through microbial aeration; and importantly how it is constructed through pandemic, hygiene, viral paranoia, and contamination. In short, wastewater as media visualizes embodiment, material waste, infrastructure systems, and natural/cultural entanglement.

Wastewater is both theory and method. Cecilia Chen suggests that "The movements of water in our daily lives link us to places and to each other," thus, "thinking with water asks" that "we consider ongoing relations with others—whether these relations join us to other locations, other beings, or other events and spacetimes."[8] This essay explores the connections across and through beings, locations, events, and spacetimes that thinking with wastewater makes possible, streaming between the place-based and planetary. These watery relations, according to Chen and which we take up here, "may include communities of disease and environmental toxicity as well as the many everyday watery places that we make together. Thinking with watery places asks us to recognize places as always permeable and permeated with water."[9] Of particular interest to us is the way that wastewater links the local and global within an aqueous system of interconnection. Our work centers our own situated knowledges and place-based experiences of liquid waste in Central California, before following wastewater's dissemination into the Pacific Ocean to consider how such an agentive force insinuates itself within the local, the global, and the epochal. Our focus on watery circulation and interconnection does not ignore the blockages or chokepoints that hinder wastewater's global flows—to this end, we understand the storage tanks and pits we examine in our third stream as attempts to contain and choke wastewater's movement. Our focus on wastewater is not to idealize interconnection or uncomplicatedly celebrate circulation, but instead to highlight how liquid waste resists human efforts at containment and the ways that watery relation and interconnection can be toxic, violent, and infective.

To think alongside the multiple and multi-scalar relations interconnected by wastewater, methodologically, we begin locally with an exploration of, what Chen describes above as "the everyday watery places humans make together,"[10] exemplified by Santa Barbara's El Estero water treatment facility (Figure 1). We open our analysis of wastewater with a tour of Santa Barbara's wastewater facility—with the local and experiential—to forefront the

embodied and place-based specificity of wastewater.[11] Sage's italicized, firsthand wastewater tour examines, through narrative and reflection, one way of thinking with wastewater prior to the onset of the COVID-19 pandemic. Her firsthand account of El Estero details a site-based account of wastewater's situated tendrils, which we employ as a springboard for then thinking about the larger circulation of wastewater and its rhetorics.


<https://csalateral.org/wp/wp-content/uploads/2022/05/El-Estero-151-Jeremy-Chow.jpg>

Figure 1. El Estero Wastewater Treatment Facility. Santa Barbara, California. Photo courtesy of the City of Santa Barbara.

Next, zooming out, we consider the "communities of disease" of wastewater's liquid relations[12]—specifically, the ways that fears of wastewater contamination have been deployed during the COVID-19 pandemic in the US. While our interest in wastewater began before COVID-19, we quickly noticed how pandemic fears of viral contamination and contagion rapidly spread to wastewater. This shift outwards enables us to think about the visceral fears of wastewater realized by the expansive spread of viruses—both past and present. Our turn to wastewater as a medium for the spread of COVID-19 allows for a range of media to inform how we approach the digital dissemination of pandemic fears, (mis)information, and analogous relationships with other viral exposures.

The pandemic has exacerbated growing concerns about contact and contagion, especially among environmental, aqueous, and human bodies, and it has, we have observed, been repeatedly compared to HIV/AIDS. Not only are COVID-19 and HIV/AIDS research repeatedly conjured in the same sentence, knowledge about COVID-19, viral safety, and creating communities of care and communication during an outbreak, are often metaphorized/theorized through HIV/AIDS. While we certainly do not conflate (or wish to

reproduce the conflation of) COVID-19 and HIV/AIDS, we argue that looking through wastewater provides an aqueous methodology that can engage both how these viral connections are communicated through popular media discourses as well as how viral contagion materially travels. Wastewater as media, then, encompasses how wastewater mediates COVID-19-infection and is, we argue, imbued with a queer agency that plays into long-held concerns over hygiene. In this stream, then, we think with COVID-19 to demonstrate wastewater's affiliation with discourses of queerness, sexuality, and race.

Finally, we move to wastewater in the Anthropocene. We grapple with the global environmental toxicity of wastewater by concluding with two examples of how it resists enclosure and control: the 2021 leak at Florida's Piney Point waste treatment facility and Japan's 2021 decision to dump contaminated wastewater from the 2011 Fukushima Daiichi nuclear disaster into the Pacific Ocean. Our conclusion frames our temporal and archival concerns within the historical and ongoing environmental violences of the Anthropocene; wastewater is invariably part of Anthropocene slow violence, neocolonialism, climate change, drought, and sea level rise. This final stream of wastewater in the Anthropocene remains critical of the Anthropocene's flattening of human hierarchies and power structures, and its intensification of colonialism and environmental racism.[13]

Our analysis of the impacts of wastewater's cultural and environmental ripples is informed by scholarship in the environmental humanities, critiques of Western colonial modernity informed by Native American and Indigenous Studies, infrastructure studies, and feminist and queer science studies—fields that allow us to offer a multi-scalar overview of wastewater as it informs place and pandemic and interacts with human hierarchies and systems of power. Wastewater is entangled with major contemporary issues such as human cultural relationships to nature, the infrastructures that undergird Western colonial modernity, experiences of pandemic, and environmental toxicity and degradation. Thinking through and with wastewater, we propose, is one methodology for holding multiple multi-scalar issues in tension with each other. Ultimately, we follow the circuitous and interconnected flows of wastewater in and through these watery places, relations, and interconnections to make evident that thinking with wastewater is both theory/metaphor and practice/methodology.

Collaborative Feminist and Queer Methods for the Environmental Humanities

What follows here is born out of numerous conversations between friends. Wastewater, we realized, sits at the nexus of many of our shared concerns. Our use of "we" throughout is not to erase power relations and difference in a move towards the falsely universal,[14] but is

instead a specific reference to our (Jeremy and Sage's) larger collaboration and shared interests in the environmental humanities and feminist and queer theories. Our "we" works against the discomfiting way traditional academic writing displaces and invisiblizes who does the act of writing. Our "we" draws attention to our embodiment and collaboration, making us present and visible on the page. We do not shy away from the disagreements, excitements, and connections that collaboration endows; we do not seek to collapse our distinct voices into a smooth and singular authorial one. Indeed, there are places where "we" is deliberately abandoned for a more specific, italicized *"I."* Our "we" is a commitment to upholding our distinct, individual modes of interpretation and metacognition while acknowledging the messiness and plurality of collaboration. The dynamism of collaboration is rendered through our experiment in form—stylistic experimentation, citational praxis, notes, and non-hierarchical juxtapositions—that make evident disagreements and differences in voice and style.[15] Our collaboration enables an interdisciplinary methodology that provides a collaborative feminist and queer approach for doing work in the environmental humanities.

Wastewater necessitates collaborative methods. As Chen, Janine MacLeod, and Astrida Neimanis assert, "As bodies of water—which we all inescapably are—we are all (perhaps unwittingly) collaborating, all of the time . . . . We do not idealize collaboration. It is sweaty work replete with tense negotiations. Thinking with water, however, asks that we attend to the way we collaborate—whether in scholarly and creative pursuits or in our ecopolitical endeavours."[16] Our collaborative methods here follow aqueous ones that uphold flows and streams of knowledge and cooperation that converge and diverge across maps of epistemology and experience. Water's fluidity is thus an organizing principle for us that maintains metaphoricity (like those of the streams and flows just acknowledged) and materiality (including the examples we explore below) as equally informative. We embark on a material-semiotic exploration that refuses to, as Philip Steinberg avers, prioritize one mode of aqueous thinking over another—the material and semiotic cannot be analytically unlinked from one another.[17] A collaborative, humanistic methodology demands the figurative, the literal, and the other.

Our assemblaged work here, as much as it is a cultural analysis, is also admittedly curatorial; that is, we offer three potential streams by which to visualize and imagine the rhetorical placement of wastewater in the contemporary imaginary.[18] A collaborative feminist and queer humanistic methodology benefits from a critical curatorial eye. Each of these streams approaches wastewater from different purviews and narrative styles. These streams, furthermore, model our experimental methodology and collaboration; that is, they do not reduce experiences of or ideas about wastewater to a flattened singularity. This commitment to formal plurality and collaboration borrows from wastewater and its various material, epistemological, and discursive realities. Our conclusion, which is in two

(potentially irreconcilable) parts, perhaps exemplifies this best as we showcase our different ways of theorizing wastewater in the Anthropocene.

El Estero / The Estuary

El Estero Wastewater Treatment Facility. Santa Barbara, California. Photo courtesy of the City of Santa Barbara.

To celebrate Earth Day 2019, the city of Santa Barbara, California rehabilitated 4.2 miles of sewer pipe—a crumbling infrastructure first installed ninety years earlier—and in so doing unveiled the newly-renovated El Estero Water Resource Center, which manages the wastewater of the city's 93,000 residents. Santa Barbara's history is one of polluted waters and their aftermaths. It is the site of multiple oil spills, most famously in 1969 by Unocal Oil. The 1969 spill and subsequent environmental activism in response to it are often considered formative events in the mainstream US environmental movement.[19]

Wastewater enters El Estero by way of liquid and solid human waste funneled in from ports and pipelines crosshatched across Santa Barbara's 42 square miles. The reclaimed wastewater takes one of four possible forms: (1) desalinated brine admixture, which is then released 1.5 miles off California's Central Coast into the Pacific Ocean; (2) recycled water for irrigation in public spaces such as University of California, Santa Barbara's main campus and Santa Barbara city parks; (3) compostable bio-solids used for fertilizer by local farms;

or, (4) converted biogas, which is used to generate electricity onsite and power at El Estero.[20]

El Estero, Spanish for "the estuary," treats six million gallons of wastewater per day, with the goal of "saf[e] recycling." The history of Santa Barbara is one of multiple and ongoing colonial regimes, starting with the Spanish and continuing into the present by the US. El Estero's Spanish name demonstrates how the region continues to glorify its colonial history through its celebration of Spanish culture: building codes which uphold and require Spanish architecture features, its romanticization of the Santa Barbara Mission and erasure of the mission system's history of colonial genocide. As this suggests, US infrastructure systems construct colonial ecologies, contouring built and "natural" environments. El Estero and Santa Barbara are located on the unceded Indigenous lands and waters of the Chumash people—the traditional and expert custodians of the region. As settler scholars, we both recognize and acknowledge that the infrastructures that enable settler ongoingness are colonial incursions in Indigenous ways of living with the lands and waters of this region.

Drawing inspiration from Macarena Gómez-Barris' "submerged perspective," through which "local terrains" become "sources of knowledge, vitality, and livability,"[21] Sage immersed herself within the multisensory and multi-scalar life of wastewater in Santa Barbara to "better see what lies below the surface of liquid" and "see what lies within the ecologies all around us."[22] In the account of El Estero that follows, Sage employs a first-person narrative style to highlight the personal, embodied, and experiential nature of the tour. The turn to narrative and the use of an embodied "I" is not a turn away from the analytical or interpretative; instead the following narrative shares Sage's immersion in El Estero's multisensory, multispecies world.

> *Pulling into El Estero's short drive, I'm faced with a low-slung complex of buildings, typical of Central and Southern California. Still in the passenger seat of my shared carpool, the full pungent force of the water treatment complex hasn't hit me yet, and instead I'm faced with a very green, well-landscaped campus that stands out against the rest of the fairly arid region. Exiting the car, swampy smells begin to waft into my nose, though they are still far from overpowering. Before being shown the aeration tanks, clarifiers, or anaerobic digesters, El Estero staff welcome those of us eager for a tour of water infrastructure in action into the main building's conference room for an introduction to the new facility (unveiled in 2019), and a few film clips that offer an overview of the scope of the facility's operations.*
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> *I meet my tour guides at the brief screening, and they seem enthusiastic to talk to me and the small group of wastewater tourists I am part of about what they do at El Estero, answering all our pre-tour questions thoroughly and amiably. The pre-tour film clips*

begin to construct a public-facing narrative of the site of El Estero and its history as an infrastructural complex that mediates cultural relationships to the environment, manages resources, and contours the built and natural environments of the Santa Barbara region. Participating in the tour allows me to frame El Estero as a site of interest and concern[23] *(bringing it from its infrastructurally backgrounded location to the forefront of my understanding of and relationship to the region), and to take part in the specific natural/cultural practice of treating (waste)water.*[24] *As El Estero's name implies in its reference to an ecological zone (estuaries), wastewater treatment relies on entangled natural processes and human social/cultural practices and priorities.*

After leaving the conference room, the tour begins. The group I am part of experiences the treatment facility in the same order as the wastewater, beginning with the influent wet well, where the wastewater is initially collected and screened for large debris that could block and/or damage treatment machinery. Next, the group travels to the covered primary clarifiers, where the wastewater is left to sit so the solids settle to the bottom. Then, our tour guides climb a set of outdoor stairs and lead us to view the aeration basins and secondary clarifiers. Up the stairs along the aeration basins, I am greeted with a beautiful view of the Pacific Ocean in the near distance, which draws my attention to the fact that much of Santa Barbara's treated wastewater is released back into the Pacific. Ecologically, estuaries are liminal places, where ocean tides meet the mouths of rivers and streams. El Estero is aptly named—sitting near the coast, its treatment infrastructure mediates the river of liquid human waste and the surrounding environs, coming between its stream and the ocean. El Estero is, in some ways, a human-made transition zone, a natural/cultural ecotone.

Our tour guides instruct us that it's safe to touch the stair rails and other accessibility structures, but to avoid touching our faces afterward and be prepared to wash our hands at the end of the tour. This instruction draws participants' attention to what Melody Jue—one of the organizers of my wastewater tour—theorizes as "the porosity of embodiment" in her work thinking through the element of sea water.[25] *By far the most olfactory, the primary and secondary stages also visually showcase all the multispecies entanglements of the wastewater treatment process. Not only can I smell the biological processes as the "good" bacteria, harvested from the collected wastewater, feed on and breakdown the organic material present in the liquid wastewater, but I can also see signs and byproducts of this process in the sludgy water. Despite the industrial setting, it feels like an intimate interspecies interaction, connecting the human body (of water) to these basins through the bacteria that make homes and larders of both. The multispecies lifeworld of the human body is both what marks this water as "waste," while also, seemingly paradoxically, providing important parts of the waste "treatment" process. This stage of the tour challenges cultural*

constructions of cleanliness, Western conceptions of the human as discrete and individually bounded, and instead draws attention to the multispecies worlds the human body houses and relies on. Drawing on Stacy Alaimo's influential notion of transcorporeality, which works to erode any firm bodily boundary between inside and outside, Jue considers the ways that "watery feminist materialisms . . . change our self-conception, encouraging us to see our own distributed embodiment as a condition that is attached to the ecological welfare of a sphere larger than our own body."[26] *As I move through the large, open-air basins, the water becomes clearer, less opaque, and other multispecies encounters take place. Migrating ducks wheel, land, and take off from some of the basins, feeding on the green algae and plant matter in turn being fed by the rich contents of the basins.*

Lest this description sound too idealistic in its marvel at the multispecies worlds the human body is part of and comprises, it is important to note that the water is later treated with chlorine to destroy any lingering bacteria. (The bacteria feeding on the organic matter found in the wastewater are only considered "good," part of wastewater's treatment, when they are controlled and contained within their specific aeration basins.) The multispecies collaboration of the wastewater treatment process only lasts as long as the extracted bacteria are a useful resource for water remediation —their utility dictated by human needs.

There's also a humorously alarming moment at the top of the basins, when the tour group notices a flotation ring strapped to the handrail. The ring makes us all immediately imagine what it would mean to need to use its flotation capabilities—what it would mean to fall into these basins (especially the sludgy ones), each more than twice as deep as I am tall. This threat of bodily immersion, brought to my attention by the flotation ring, makes me consider how the subversion of inside/outside, of waste out of place,[27] *makes me feel porous and vulnerable.*

From here, the group descends to the tertiary stages of the water treatment process. The water is pumped through rows of cylindrical filters. It is in these tertiary stages that pathogens are removed from the water. Our tour guides note that, though El Estero does not treat their water to a quaternary stage, their three stages are rigorous enough that the water should be safe to drink. Part of the 2019 upgrades and rebranding was to "recycle" more of the treated water at El Estero (meaning it is used to water public spaces), instead of releasing all of it directly into the Pacific Ocean. El Estero's release of wastewater into the Pacific is linked to scientific ideas about dilution, and bodies of waters' ability to purify themselves. Theories of dilution are predicated on thresholds of harm that determine when something is considered polluted or polluting. They enforce a human/environmental hierarchy that imagines the human as separate from the ocean,

while reinforcing the idea that the ocean does not need wastewater to be remediated to the same levels as is necessary for human use.[28]

Our tour did not include an up close encounter with El Estero's biogas electricity generation station (which provides about 70% of the center's electricity needs), though my group did get to spend a generous amount of time in the on-site water lab. The lab performs water quality analyses of drinking water, wastewater, and creek and ocean water. It is here that, with the help of a microscope and lab technician, my group encounters the bacteria and single-celled life present in the wastewater (including the now internet-famous water bear) in a mediated way that keeps the bacteria in their proper places, and our bodily interior/exterior binary safely in place.

Our tour ends with a trip to the bathrooms to wash our hands. As wastewater tourists, our tour guides ensure our cleanliness/hygiene is preserved, despite our immersion in this wastewater site. While scrubbing my hands along with the others, I think about the water spiraling down the drain—it rushes out of the tap clean and cool, but its contact with my contaminated hands makes it dirty. Despite being in the heart of the wastewater treatment facility, (waste)water infrastructure ensures my access to clean water, and the proper containment and circulation of dirty water to be treated. While I wait for everyone to return, the lush landscaping of the campus comes up, and my tour guides proudly inform the group that they irrigate and fertilize the grounds with water and fertilizer from their facilities—again showcasing the rich (and in this case verdant) multispecies worlds sustained by wastewater and the ways infrastructure systems configure environments and create ecologies.

Sage's participation in the El Estero tour spotlights how infrastructure materializes cultural constructions and shapes local environments. Western epistemologies are shaped by binary, dichotomous thinking—dichotomies are, as Thomas King (of Cherokee descent) demonstrates in *The Truth About Stories: A Native Narrative*, "the elemental structure of Western society."[29] We argue that wastewater as theory/metaphor and practice/method requires a reconsideration of the knowledge produced by dichotomous thinking. While the work of environmental humanists and feminist and queer science and technology studies scholars, such as Donna Haraway's synthesis of natureculture[30] and Karen Barad's concept of entanglement,[31] provide theoretical genealogies for understanding how nature and culture are co-constitutive, thinking with wastewater draws attention to other dichotomies that contour how wastewater is culturally conceived, including cleanliness versus dirtiness, purity versus contamination, polluted versus remediated, and the ways wastewater infrastructures are imagined, such as background versus foreground, invisibility versus visibility, and containment/enclosure versus circulation, to name only a few.[32]

Infrastructures, according to Brian Larkin, "comprise the architecture for circulation, literally providing the undergirding of modern societies, and they generate the ambient environment of everyday life."[33] Larkin's conceptualization of infrastructure, as "ambient" and "undergirding," reveals how infrastructure sustains the functionality of societies, while it is also regularly conceived of as existing in the background. This tension between background/ambient and essential/functional is key, we assert, to US infrastructures of wastewater and their relationship to hygiene.

Larkin connects infrastructures' circulatory aims with Enlightenment conceptions of a world in motion, linking infrastructure, processes of world making, and Western epistemologies. Infrastructural circulation requires containment and control. Infrastructures of wastewater discreetly remove liquid waste from "clean" domestic, professional, and public spheres, transporting it out of sight and out of mind to designated waste sites (whether these are storage tanks or wastewater treatment facilities). Wastewater infrastructures offer up an imaginary of a world where waste, and thus contamination, is contained and controlled by treatment facilities (like El Estero) and storage pits (like Piney Point, with which we will conclude), thus designating waste sites as somehow distinct and isolable from their surrounding environments and communities.[34] As modeled by El Estero and Piney Point, the dichotomous clean/dirty or hygienic/contaminated imaginary of the US is predicated on this background circulation of waste—its removal from "clean" sites and its transportation elsewhere, to places imagined as separate and contaminable.[35] Sage's tour of El Estero provided the opportunity for her,[36] and her fellow wastewater tourists,[37] to immerse themselves in one locally designated waste site, and to complicate some of this binary thinking.

Hygiene Theater and Contaminated Imaginaries

The closing hygienic practices—vigorous handwashing—that conclude Sage's tour of El Estero evoke the lived experience of the last two years of the coronavirus pandemic. As Sage's tour evidences, images and imaginaries of wastewater make people squeamish, incite fears over waterborne disease, and require foregrounding infrastructures and embodiments that have long been sidelined. In truth, the infectious spread of shit and other viral bodies abuts residual phobias of cleanliness, that, especially with the rise of COVID-19, epitomize what has been popularly termed "hygiene theater."[38] For Derek Thompson, hygiene theater, while muddling the public health message only to sow further pandemic fears, problematically redistributes resources away from systemic solutions in order to uphold deep cleaning and scrubbing of surfaces as paradigms of clean living that ultimately give way to a false sense of security. We extend Thomson's assessment of "hygiene theater" to better account for how the performance of hygiene, cleanliness, and

purity rely on constructions of dirtiness and filth that reinforce structural power dynamics including racism, white supremacy, classism, homophobia, and ableism. Alexis Shotwell, for instance, observes that "the delineation of theoretical purity, purity of classification, is always imbricated with the forever-failing attempt to delineate material purity—of race, ability, sexuality, or increasingly, illness."[39] The illusion of hygiene relies on what we call **the contaminated imaginary**. In other words, hygiene theater provides an aperture through which to visualize the cultural construction of the West's clean/dirty binary, and the ways notions of contamination disrupt the purportedly stable notions of what constitutes cleanliness. Put simply, hygiene theater is the stage upon which contaminated imaginaries are performed.

Wastewater's hygiene theater and contaminated imaginaries make evident how particular bodies and identities become culturally inscribed in notions of clean and unclean and thus render embodiments (outside of cis-het white supremacy) abject. Hygiene and cleanliness demarcate the boundaries of socially, politically, and morally acceptable forms of being. Purity's purported whiteness is encoded in opposition to and upheld by social conceptions of dirtiness, including waste (bodily and otherwise), poverty, and viral contamination. We need not remind ourselves of the discriminatory rhetoric that associates queer, poor, and BIPOC bodies as dirty, non-hygienic/non-professional, or as surplus/detritus. If theater's etymology signals an attention to behold or spectate, then we speak to the ways in which hygiene theater not only coalesces with viral fears of wastewater, but also demands that the bodies somehow "contaminated" by these viral agents perform filth, which we now locate within the COVID-19 global pandemic.

Rectal Futures of COVID-19

As the contaminated imaginary suggests, COVID-19 has informed every aspect of life, production, and encounter in this new decade, and so too has wastewater become a phantom menace running parallel to widespread fears of contagion and communication. In August 2020, the Centers for Disease Control (CDC) initiated the National Wastewater Surveillance System, which sought to track the spread of COVID-19 through the fecal matter of communities connected to municipal sewer systems, which accounts for roughly 80% of people living in the US. By the CDC's admission, the goals of surveilling wastewater were neither curative nor predictive: "Sewage testing over time can provide trend data that can complement other surveillance data that informs public health decision making. However, at this time, it is not possible to reliably and accurately predict the number of infected individuals in a community based on sewage testing."[40] Wastewater, in other words, upholds the state's surveillance of bodies by accounting for remnants of bodily entanglements found in excrement. This surveillance system shows how wastewater,

COVID-19/virality, hygiene theater, and contaminated imaginaries are co-implicated and co-produced.

In early July 2020, with fears of yet another COVID-19 hotspot emerging because of a jingoistic holiday, the Los Angeles Department of Public Health (LADPH) disseminated a guide detailing the relationship between COVID-19 and sexual activity—a continuation of pamphlets circulated months earlier by the CDC, New York state, and the District of Columbia. The guide opens with a question, "But can I have sex [during the pandemic]?," to which the answer is, "Sex is a normal human activity, and a way to have fun without leaving your home. However, it is important that during this pandemic you practice safer sex in new ways. Here are some tips for how to enjoy sex and to avoid spreading COVID-19."[41]

The sex-positive pamphlet develops safe and enjoyable guidelines by which to exercise one's sexuality in heightened times of stress and viral insurgencies. As is widely known, COVID-19 is spread through direct and indirect respiratory contact (i.e. talking, coughing, sneezing, etc.) in which an infected individual passes the virus to an uninfected individual through mucus membranes (i.e. eyes, ears, mouth, nose, rectum, etc.). The LADPH guidelines recommend against kissing, unprotected genital-to-genital sex and genital-to-anus sex, and notably, rimming, a form of oral sex that engages the anus.[42] The pamphlet reads, "Rimming (mouth on anus) might spread COVID-19. Virus in feces may enter your mouth." Fears of coprophilia, coprophagia, contamination, and unhygienic practice explode in these two concise sentences. The fear of the anus supersedes the fear of viral fecal matter.

As the LADPH guidelines evidence, the fear of the anus returns in full force with the pronouncement of COVID-19. Leo Bersani's foundational essay "Is the Rectum a Grave?" locates anality as a site of queer annihilation because of the widespread contraction of HIV/AIDS among gay men, about whom Bersani emically writes.[43] "Is the Rectum a Grave" unfolds yet another strand of what we identify as hygiene theatre's contaminated imaginary in that gay sex and the emergence of the HIV/AIDS pandemic are interwoven as sullying the body, and with it, the cultures, locations, and institutions invirated bodies circulate among. To be clear, we are not interested in conflating COVID-19 and HIV/AIDS, especially because the latter has become a weapon by which to rationalize the ostracization and violation of queer bodies and bodies of color—the populations still most disproportionately affected by the virus. However, this has not stopped public-facing content, including both click-bait media and government-sponsored sources alike, from suggesting their similitude.[44]

Consider, for example, the CDC's FAQ regarding COVID-19 and HIV, which explicitly addresses both viruses. In a failed attempt at destigmatizing COVID-19 and, potentially HIV, the CDC writes, "Because of limited data, we believe people with HIV who are on effective HIV treatment have the same risk for COVID-19 as people who do not have HIV."[45]

The FAQ attempts to downplay the fact that individuals with HIV are more at risk of the long-term effects, including death, of COVID-19. This assertion directly contrasts studies cited by the CDC (in that limited data set) in which individuals with HIV **were more likely to die** of COVID-19—and these studies reflected cases across the globe, including South Africa, New York City, and the UK.[46] As these studies and the CDC note, and which informed the rollout of vaccination dissemination in most US states, individuals with comorbidities (such as hypertension, heart disease, diabetes, obesity, cancer, etc.) and immunocompromises are more likely to die from COVID-19 given the virus's immune system attacks. The CDC downplays the lived realities of those with HIV who—despite antiviral medications—remain at higher risk of the severe effects of COVID-19 variants. The failed attempt at stigma reduction runs the risk of falsely minimizing the potential risks of COVID-19 on immunocompromised individuals with HIV/AIDS who are, as we discuss below, disproportionately gay and bisexual men, as well as Black and Latinx people.

These same rhetorical strategies (and failures) reappear in the last question of the FAQ: "What can everyone do to minimize stigma about COVID-19?" The CDC's response draws parallels between COVID-19 and HIV: "Minimizing stigma and misinformation about COVID-19 is very important. People with HIV have experience in dealing with stigma and can be allies in preventing COVID-19 stigma." What's especially strange about this exchange is that the question does not match the answer and vice versa. The question asks about "everyone" not exclusively those with HIV/AIDS, and the answer attempts to situate an unsettling camaraderie among those with COVID-19 and HIV/AIDS. Those with HIV/AIDS are called upon to be "allies" to COVID-19 positive people, as if to suggest that these populations are mutually exclusive. The CDC proposes that COVID-19 and HIV/AIDS are somehow linked and yet, in the same breath, encounter disparate yet likened stigmatization. Those with HIV/AIDS, as a result, must take up the emotional labor of situating allyship for all individuals with viral exposure. HIV/AIDS thus becomes the metonymic über-virus.

The juxtaposition of COVID-19 and HIV/AIDS invariably laminates sexuality and waste (a metaphoric body wasted away in addition), especially as they are synced with a toxic, infective anality.[47] If, in Bersani's formative queer theorization, the anus becomes a site of possible erasure as a result of viral exposure, so too have COVID-19 rhetorics and science sought to locate the anus as the skeleton key for containment and surveillance.[48] For instance, a 2021 news report documented China's use of anal swabs (in addition to nose and throat) to more effectively discern whether an individual was a host for COVID-19.[49] The anal swabs, which require a 1–2 inch cotton implement to be inserted directly into the anus and rotated much like nasal swabs, were employed for those traveling into and among major Chinese metropoles, especially those who exhibited or reported symptoms. While throat swabs often yielded negative results, the anal and nose swabs—in conjunction—are

ostensibly capable of more efficient and reliable data. Wendy Szymczak, a diagnostic researcher at New York's Montefiore Medical Center, clarifies the anal swabs' utility:

The main advantage of a stool PCR is that you can detect the SARS-CoV-2 RNA for a longer period of time, post-symptom onset. So, for the traditional nose and throat, or nasopharyngeal PCRs, you can detect virus usually for about two weeks if the patient has mild symptoms. Whereas in the stool, it's been shown that you can usually detect the virus for about four weeks, and for some patients even longer, out to 70 days.[50]

The problem, Szymczak observes, is that not all individuals shed RNA—the traceable entity that registers on these diagnostics—in fecal matter. Oftentimes, remnants of RNA found in solid waste are not transmissible forms of virus; feces can carry inert viral material that poses no additional risks because it is senescent.

Despite this realization, the microscopic surveilling view that gazes into the bowel/bowl suggests that the health and hygiene of a community hinge upon the readily available information that the anus can provide in terms of locating, tracking, and containing viral spread. The anality of COVID-19 continues to unfurl queer futures and theories, not only because of its associations with HIV/AIDS. Anality has long been central to queer theory—thus rectal swabs and the containment of bodies deemed unclean, virally-infected, and biohazardous threats position COVID-19 as yet another queer horizon. The rectal wastewater futures we see operating here thus accord what Neel Ahuja calls "atmospheric intimacy," or a "signal that the reproductive forces and waste effects of carbon intensify contradictions between precarity and freedom, reforming the political through a model of action distinct from the agency of the human sovereign."[51] Ahuja doesn't mean waste in the same way we do, but the joining of "waste effects" and its queer environmental focus are apposite here. Neither COVID-19 nor wastewater are queer in and of themselves, but in their cultural imaginary and realities they maintain queer affinities. These of course assume racialized connotations, especially for Asian and Pacific Islander communities, when—fanned by incendiary misinformation spread by a former presidential demagogue—COVID-19 was dysphemized as the "China virus," which induced widespread Sinophobia and hate crimes across the US.

> *These persist as we write this essay. I am keenly aware of the embodied realities of "waste effects."*[52] *It reminds me too much of a (now staid) retort by homophobic people when they find out an attractive (cis, white, hetero-passing) person is queer: "What a waste." The wastedness of such a remark unfurls unceasing commitments to repro-futurity in which the desired, now outed, individual bears all the potential of hetero-reproducibility and yet refuses to participate. They are a love object who stands outside of the realms of hetero-acceptability. "What a waste" is thus akin to accusations that queer people "choose" to be queer. While these semantically different*

yet identical phrases may appear at odds, they signal forms of queer being that are a waste to/of hetero-reproductive systems.

Waste effects, I've learned, also participate in delineating socio-political acceptability in rural America. As a queer mixed-race person, I should be inured to navigating these dynamics. I'm not. I currently live in a deeply conservative county in Central Pennsylvania—voting data suggests that this county may be one of the most historically conservative in the nation[53]—and I am too familiar with the racialization of COVID-19 in the US, which pairs Asianness and virality.[54] In a county where mask mandates were loose, at best, I found myself in a double bind: the mask represented a trust in science and refusal to deny the reality of viral contamination, especially in indoor, public spaces such as grocery stores and libraries. And yet, without the mask (and other forms of disguise), my mixed Asian features are more prominent. The mask suggests a political alliance; my maskless face engenders a radical racial threat. The irony of this doesn't escape me, but neither does bald-faced racism. Both are met with vitriol and different threats of potential violence, especially here and places just like it around the globe. Waste effects take on renewed vigor in this context. Wasted, not as in inebriated, but a colloquial turn of phrase that defines a body laid out, unalive, because of brutal violence. These waste effects worry me most.

To refurbish Bersani's evocative question, with the anality of COVID-19, the anus is not exclusively a grave—though high comorbidity rates continue that reading—it is also an investigative site for biopolitical control, especially of marginalized communities or those deemed "dirty." We need not be reminded that those populations hit hardest and made even more precarious by both HIV/AIDS and COVID-19 are queer and BIPOC.[55] Urban populations of color remain some of the most affected by COVID-19 spread; indeed, in places like Chicago and Los Angeles, wealthy, predominately white, suburban individuals sought (and obtained) vaccination appointments reserved for urban populations of color and frontline workers—even forcing one site to shut down all appointments.[56] According to 2020 statistics published by UNAIDS, roughly 40 million people currently live with HIV; 1.7 million contracted the virus in 2019. And while HIV contraction is down by 40% from its 1998 peak, HIV infections disproportionately affect young women in Africa; gay men (and men who have sex with men) are 26 times more likely to contract HIV; and sex workers are 30 times more likely.[57] In the US, 1 in 7 individuals lives with HIV, and Black and Latinx populations record the highest contraction rates. For example, as of 2018, while Black populations account for only 13% of all Americans, 41% of those with HIV identify as Black; for Latinx populations these percentages are 18 and 23, respectively.[58] And gay and bisexual men, as well as men who have sex with men, account for 70% of new HIV infections in the US.[59]

These disproportionate statistics reveal how viral contaminants remain uneven realities for already precarious and marginalized populations. The epistemological connection that HIV/AIDS and COVID-19 share then is not just predicated on facile presumptions that all viruses operate identically. Rather, the rectal futures of COVID-19 realize a connection with HIV/AIDS discourses precisely because of the disenfranchisement that both pandemics spur in queer and BIPOC communities.

The Anthropocene's Shitty Conclusions

As we neared completing this essay, we found ourselves further mired in streams of wastewater. Wastewater was everywhere we looked and in many places we hadn't. In early April 2021, Piney Point, a wastewater processing plant in Manatee County, Florida, reported catastrophic infrastructural failures that resulted in uncontrolled seepage to the broader community.[60] Evacuations were ordered for several hundred nearby residents, though not ordered for the residents at the Manatee County Jail (a small number were to be moved to an "upper campus"), which houses more than one thousand inmates and lies within the evacuation zone—roughly a half-mile radius of the wastewater breach.[61] Piney Point lays bare the ways that environmental degradation exacerbates human systems of unfreedom including those imposed by the carceral state.[62] Ne'er-do-well Governor Ron DeSantis declared the Piney Point leak a state of emergency because of the threat of radioactive spread stemming from phosphogypsum, a byproduct of fertilizer production. Phosphogypsum is a crystallized concentration of "naturally-occurring uranium, thorium, and radium," which has a long-documented history of polluting groundwater.[63] Piney Point models what Rob Nixon identifies as the tension between environmental slow violence (the decades-long everyday leaching of Piney Point) and spectacular violence (the infrastructural failure).[64]

In a letter to DeSantis, Commissioner of Agriculture, Nicole Fried, reminds the governor that the failure of wastewater infrastructure at Piney Point has been ongoing for more than two decades.[65] The Department of Agriculture has for half a century documented the failings of this infrastructure resulting from mismanaged mining in Central Florida. The effects have included widespread environmental disaster and unmeasured wastewater leachate and radioactive waste seepage into soil and bodies of water. Piney Point's 2021 failures exemplify how, too often, recognizing something as violence requires the spectacular.

< https://csalateral.org/wp/wp-content/uploads/2022/05/49587240523_0b55e0e70f_o-Jeremy-Chow.jpg>

Figure 3. A 2020 visit to TEPCO's Fukushima Daiichi Nuclear Power Plant. Courtesy of IAEA Photobank (CC BY 2.0).

Some 7,300 miles away, and in the same month, the Japanese government approved the release of 1.2 million tons of radioactive wastewater in the Pacific Ocean as a means of dealing with the contaminated water from the 2011 Fukushima reactor explosion. Despite protests from Japan's fishing industry and trading partners China and South Korea, as well as a call to arms by environmental organizations like Greenpeace, Japan plans to release this wastewater into the Pacific for the next forty years. The decades it will take for all the stored wastewater to be released, as well as the long duration of radioactivity which exceeds human timescales, raise questions about the temporalities of waste and the (slow violence) afterlives of contamination. Reports indicate that Japanese officials have assured all parties that the radioactivity of the wastewater will be beneath the radiation levels currently set for potable water—at least based on the standards of the International Atomic Energy Agency. While we have worked to think with wastewater's streams and circulation throughout this essay, we also want to draw attention to the chokepoint, or blockage, of water's flow at the Fukushima Campus, where more than a thousand tanks currently contain the irradiated water, keeping it from circulating through the Pacific. A photograph of TEPCO's Fukushima Daiichi Nuclear Power Plant (Figure 3) documents some of this infrastructure. However, the amount of wastewater that needs storing continues to increase, as water must be pumped through the debris to keep it from causing further

damage, resulting in contaminated water that exceeds human ability to contain. The measured effects of releasing the wastewater are meant to minimize the threats to humans, though those who oppose the decision worry that little concern has been paid to the aquatic life and environments that will be forced to stomach the polluted wastewater.[66] Once released, the wastewater will eventually flow across the Pacific, the ocean's currents bringing this essay full circle, back to California's coast.

Jeremy's Conclusion

Wastewater is polemical. And the conclusions I see for wastewater's imbrication in the Anthropocene are admittedly pessimistic—a stark contrast to the hopeful ambivalence offered by Sage. To echo Susan Signe Morrison, "Our entanglements with waste, whether Amazon packaging or food leftovers, leaves little hope for positive thinking."[67]

I read these global scenes—that of Piney Points and Fukushima—as illustrations of hygiene theater's final act. That is, the widespread dissemination of wastewater into the world's oceans, which invariably institutes problems for all species at various scales (microbes to megafauna) demonstrating what Elizabeth DeLoughrey calls empire's constitutive nature with waste construction and distribution.[68] *"To turn to figures of waste," DeLoughrey writes, "is to examine the spatial collapse between the human and nonhuman nature, and to render visible some of the most pernicious and mystified by-products of late capitalism and regimes of state disposability."*[69] *The Anthropocene would seem then to cloud these visibilities and to likewise enable the agents responsible for the mass dissemination of waste to avoid culpability. Waste, like the Anthropocene, indexes both material reality and theoretical apparatus so as to similarly reinforce an insidious homogeneity. Waste thus operates as an epistemological analogue to the Anthropocene in that both are facilely recognized as affecting all humans and nonhumans alike. The logic goes as follows: we are all equally responsible for the waste and all equally damaged by this wasting. We know this rhetorical homogeneity to be patently false. There are textures to the damages enacted by*

Sage's Conclusion

While Jeremy and I reach many of the same conclusions—including a discomfort with the Anthropocene's reductive flattening of human history and hierarchies of power, as well as a deep investment in challenging harmful cultural constructions of purity and contamination—we end up in very different places affectively. Jeremy is an avowed pessimist, whereas in my search for additional possibilities, I end in a more hopefully ambivalent place. I am committed to dismantling and retooling the Western binary formations of nature and culture; cleanliness and dirtiness; hygiene and contamination that contour human relations with each other and the more-than-human world. Wastewater infrastructures create a world built on the myth of control and containment, enabling the globally powerful and privileged to participate in a hygiene theatrics shaped by cultural constructions of cleanliness that imagine some communities, sites, and bodies of water as justifiably contaminable and others as always already contaminating. Jeremy reads a theoretically emancipatory possibility in reclaiming ruination, which I also understand to be a powerful intervention in cultural constructions of purity. I worry, however, that relishing a world of waste may not, in fact, open up new possibilities for being in the world outside of the cultural and environmental wreckage of the West's dichotomous worldmaking.

I recognize that the scale and breadth of contamination, accumulation, and entanglement render the imaginary of isolable waste sites false. However, I also remain committed to the possibilities of remediation: it is the water treatment processing at sites like El Estero, after all, that protect communities from waterborne diseases, which are still one of the global leading causes of death, killing millions each year worldwide. Where Jeremy transgressively recuperates filth, I hope to

waste and the Anthropocene that reinforce and highlight particular precarities, especially for already marginalized and racialized communities and geographies.

The deployment of waste as a form of planetary neocolonialism ironically demonstrates hygiene theater's erasure. While Thompson uses the phrase to identify the persistent and insistent visuals of hypercleaning, hygiene theater's final act recognizes its moot nature. There is no more hygiene theater in the Anthropocene because there is no longer any attempt to clean up the mess that waste has wrought. When we pass a point of no return, when the contamination of viral, infectious, and other "unclean" bodies has reached critical mass, we also eliminate the need for hygiene theatrics. The purification of remediation is no longer possible. Let's give up the ghost.

Wastewater methodologies and ontologies seek to live in the wastes that we have ushered in—an opportunity that makes possible new forms of relationality, scale, and paradigms of purity. I wager, then, the following: Let us make a home in our ruination—a prospect that has long lived within queer and queer of color discourses. I invite others to dwell with us in the inescapable sullied filth, waste, and environments that have become a hallmark of the Anthropocene, offering new wastewater ontologies that relish our inhabitation of waste in Anthropocene presents and futures. To butcher a provocation from Bruno Latour that has already been butchered many times over: **we have never been clean**. *The Anthropocene's shitty futures enable a necessary re-visioning in which we understand waste and wastewater to restructure and re-suture all hierarchies, planes, and levels of the environmental mesh in which we find ourselves.*

reimagine remediation as an act of being in reciprocal relationship to human and more-than-human worlds.

Rejecting the colonialism of waste and the structures of power that create disasters like Piney Point, for me, requires a rebuilding rooted in responsibility to and care for the human and more-than-human beings (already) living in the "wasted" worlds of justified contamination—and remediation can, perhaps, be one facet of this responsibility and care. My turn to care is not uncomplicated, unproblematized, or even necessarily prescriptive. Puig De La Bellacasa's work thickens my notions of "care as a noninnocent but necessary ethos of always situated implications."[70]

Max Liboiron (Michif-settler) contends that pollution is colonialism, in part, because it enables colonial land relations. Liboiron also traces how colonial environmentalists who attempt to mitigate and/or remediate pollution can (and often do) also enact colonial land relations as their environmental efforts continue to occupy and make available Indigenous land to settler colonists.[71] *Liboiron powerfully demonstrates the incommensurabilities between colonial environmentalisms and Indigenous relations with Turtle Island's lands and waters, while also highlighting the inability of non-decolonial environmentalisms to address issues of Native sovereignty and self-determination. Liboiron's work contributes to my ambivalence about remediation,*[72] *while underscoring the need to reimagine care, being, and responsibility in ways that do not assume settler access to and control of Indigenous land relations.*

Wastewater requires a continued commitment to complexity and unevenness—as its multiple suturings exceed the dichotomous structures of Western thought. While the inverse of clean is transgressive, and transgression is powerful, embracing a world shaped by the inversion of cleanliness is still structured by dichotomy. Ultimately, it still ends with a

wasted world. The wastewater streams we navigate here showcase the possibility for multi-scalar multispecies entanglements and co-constitutive understandings of culture and nature. These entanglements require an understanding of waste as not discrete, contamination as not separable—and this, in turn, demands accountability, reciprocity, and care.

We have sought here to visualize the broad and diverse extent by which wastewater participates in shaping human, nonhuman, and-more-than human worlds—as well as those individuals within that trifecta who are cast outside or beyond those taxonomic boundaries. For example, humans whose viral infections are used to dehumanize them as well as the nonhuman or more-than-human microbial contaminants that become humanized through embodied introduction. This essay demonstrates the various socio-cultural constructions that accompany any discussion of waste, water, and their joining, and attends to a concerted effort to waste notions of (never possible) purity and the theatrics of hygiene. While waste is commonly associated with detritus or excess, we ask for a reconsideration of what dwells in those realms of dross because, as we have shown, they can unlock variegated histories, stories, and identity-based representations that are too rich to be flushed.

Notes

1. Mielle Chandler and Astrida Neimanis, "Water and Gestationality: What Flows Beneath Ethics," in *Thinking with Water*, ed. Cecilia Chen (Montreal: McGill-Queen's University Press, 2013), 61. ↩

2. Cecilia Chen, Janine MacLeod, and Astrida Neimanis, "Introduction: Toward a Hydrological Turn?," in Chen, *Thinking with Water*, 4. ↩

3. Myra Hird, "The Phenomenon of Waste-World-Making," *Rhizomes: Cultural Studies in Emerging Knowledge* 30 (2016): 2, https://doi.org/10.20415/rhiz/030.e15 < https://doi.org/10.20415/rhiz/030.e15> . ↩

4. Hird, "The Phenomenon of Waste-World-Making," 2. ↩

5. Sarah A. Moore, "Garbage Matters: Concepts in New Geographies of Waste," *Progress in Human Geography* 36, no. 12 (2012): 780–799, https://doi.org/10.1177/0309132512437077 < https://doi.org/10.1177%2F0309132512437077> . ↩

6. Myra Hird, "Knowing Waste: Towards an Inhuman Epistemology," *Social Epistemology* 26, no. 3–4 (2012): 157–173, https://doi.org/10.1080/02691728.2012.727195 < https://doi.org/10.1080/02691728.2012.727195> . ↩

7. Our understanding of wastewater as media is informed by elemental media studies, which conceives of the elements as "not a neutral background, but lively forces that shape culture, politics, and communication." Melody Jue and Rafico Ruiz, *Saturation: An Elemental Politics* (Durham, NC: Duke University Press, 2021), 1. ↩

8. Cecilia Chen, “Mapping Waters: Thinking with Watery Places,” *Thinking with Water* (Montreal: McGill-Queen’s University Press, 2013), 275. ↩

9. Chen, “Mapping Waters: Thinking with Watery Places,” 275. ↩

10. Chen, “Mapping Waters: Thinking with Watery Places,” 275. ↩

11. Sage took a tour of El Estero in 2020 with a group of scholars and community members. *A huge thanks to Melody Jue and Somak Mukherjee for organizing the tour as part of UCSB’s Literature and Environment Research Initiative! I dedicate my reflection on the experience to you both. Thank you!* ↩

12. Chen, “Mapping Waters: Thinking with Watery Places,” 275. ↩

13. For more on the ways that climate change and the Anthropocene intensify colonialism, see Kyle Powys Whyte (Potawatomi). Kyle Powys Whyte, “Indigenous Climate Change Studies: Indigenizing Futures, Decolonizing the Anthropocene,” *English Language Notes* 55, no. 1–2 (2017): 153–162, https://doi.org/10.1215/00138282-55.1-2.153 < https://doi.org/10.1215/00138282-55.1-2.153> . ↩

14. For more on the assumptions built into “we,” see Max Liboiron’s *Pollution is Colonialism,* especially 23–25. Max Liboiron, *Pollution is Colonialism* (Durham, NC: Duke University Press, 2021). ↩

15. The formal aspects of this article are deliberate. We employ **bold** to signify emphasis. We use *italics* with indentation in the body text to indicate first-hand experiences. ↩

16. Chen, MacLeod, and Neimanis, “Introduction: Toward a Hydrological Turn?,” 19. ↩

17. Philip Steinberg, “Of Other Seas: Metaphors and Materialities in Maritime Regions,” *Atlantic Studies* 10, no. 2 (2013): 156–169, https://doi.org/10.1080/14788810.2013.785192 < https://doi.org/10.1080/14788810.2013.785192> . ↩

18. Our understanding of our curatorial work in this essay as one of its queer methodological commitments stems from Kadji Amin, Amber Jamilla Musser, and Roy Pérez’s introduction to *ASAP*’s special issue on queer form—“Queer Form: Aesthetics, Race, and the Violences of the Social”—in which they posit that “An analytical strategy that seems to have pride of place in queer cultural studies is the intuitive combination of seemingly disparate objects whose connections emerge through the critic’s idiosyncratic style of rhetorical and archival disclosure” (230). In their introduction to the issue, the three give “scholars license to think together concepts and works of art that might appear inconsonant according to strictures of historical period, genre, medium, or perceived cultural context, but whose relevance and discursive imbrication become visible through the activity of the queer critic, whose expressed desires or politics then have space to become heuristic starting points” (230). Kadji Amin, Amber Jamilla Musser, and Roy Pérez, “Queer Form: Aesthetics, Race, and the Violences of the Social,” *ASAP* 2, no. 2 (2017): 227–239, http://doi.org/10.1353/asa.2017.0031 < http://doi.org/10.1353/asa.2017.0031> . ↩

19. For more on Santa Barbara’s role in petromodernity, the environmental consequences of the 1969 Unocal oil spill, and how thinking regionally is a generative approach to engaging with global energy and infrastructure systems, see Stephanie LeMenager. Stephanie LeMenager, *Living Oil: Petroleum Culture in the American Century* (Oxford: Oxford University Press, 2014), https://www.doi.org/10.1093/acprof:oso/9780199899425.001.0001 < https://www.doi.org/10.1093/acprof:oso/9780199899425.001.0001> . ↩

20. “El Estero Water Resource Center,” City of Santa Barbara, last modified January 29, 2021, https://www.santabarbaraca.gov/gov/depts/pw/resources/wastewater/estero.asp < https://www.santabarbaraca.gov/gov/depts/pw/resources/wastewater/estero.asp> . ↩

21. Gómez-Barris conceives of the “submerged perspective” as a decolonial femme methodology. Macarena Gómez-Barris, *The Extractive Zone: Social Ecologies and Decolonial Perspectives* (Durham, NC: Duke University Press, 2018), 1. It is important to note here that, while we are inspired by Gómez-Barris’ “submerged perspective,” we do not make claims to doing decolonial work in this article, as our understanding of decolonization, shaped by Eve Tuck and K. Wayne Yang, is that decolonial efforts must spatially and materially fuel Indigenous self determination

and enable Indigenous land relations. Our essay, while attempting to think alongside, listen to, and learn from Indigenous critiques of colonialism's environmental violence and extraction, and Native ways of being part of and in relation to the environment, does not return stolen land to its Indigenous inhabitants. Eve Tuck and K. Wayne Yang. "Decolonization is not a metaphor," *Decolonization: Indigeneity, Education & Society* 1.1 (2012): 1-40. https://doi.org/10.25058/20112742.n38.04 < https://doi.org/10.25058/20112742.n38.04> . For an in-depth discussion of the differences between anticolonialism and decolonialism, and the nuances between Western epistemologies and colonialism, see Liboiron. Liboiron, *Pollution is Colonialism*, 26–27. ↩

22. Gómez-Barris, *The Extractive Zone*, xiii-xiv. ↩

23. *I borrow the language of "interest" and "concern" from Parks' critical humanities methodology*. See note 36 below for more on Parks' critical humanities methodology for studying infrastructure. Parks, "Stuff You Can Kick," 355–356. ↩

24. *While my experience touring El Estero was not a toxic tour, Phaedra C. Pezzullo's writing about her own embodied participation in toxic tours is useful here as the tour of El Estero is an act of tourism from within a designated waste site—a site that makes clear the entanglements of nature, culture, performance, and community*. According to Pezzullo, tours focused on environmental justice issues have the capability of combining both cultural and environmental tourism, and are ultimately, cultural performances that produce community history and memory. See notes 35 and 37 below for more on Pezzullo's work. Phaedra C. Pezzullo, "Touring 'Cancer Alley,' Louisiana: Performances of Community and Memory for Environmental Justice," *Text and Performance Quarterly* 23, no. 3 (2003): 226–252. ↩

25. Jue asserts that submersion in the ocean denaturalizes Western habits of thought and perception. Jue, *Wild Blue Media,* 19. ↩

26. Jue, *Wild Blue Media*, 19–20. ↩

27. *Here I reference Douglas*. Mary Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (New York: Routledge, 1966). See note 32 below for more on Douglas's formulation of dirt as matter out of place. ↩

28. For a science and technology studies take on the science of dilution and the 1969 oil spill, see Teresa Sabol Spezio, *Slick Policy: Environmental and Science Policy in the Aftermath of the Santa Barbara Oil Spill* (Pittsburgh: University of Pittsburgh Press, 2018). For more on the colonial assumptions of determining pollution see Liboiron, *Pollution is Colonialism,* 3–10. ↩

29. Thomas King, *The Truth About Stories: A Native Narrative* (Minneapolis: University of Minnesota Press, 2003), 25. ↩

30. Donna J. Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003). ↩

31. Barad defines entanglement as the "lack of an independent, self-contained existence," to demonstrate the ways "existence is not an individual affair … rather, individuals emerge through and as part of their entangled intra-relating" (xi). We are, Barad stresses, "part of the nature that we seek to understand" (67). Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007). ↩

32. Famously blurring the boundaries of hygiene and the clean/dirty binary in the process, Mary Douglas theorizes dirt as "matter out of place." Douglas, *Purity and Danger*. Janet Walker further explicates, "The idea of dirt is relative, she {Douglas} explains: 'Shoes are not dirty in themselves, but it is dirty to place them on the dining table' . . . Further, it is no more dirty to dump garbage in Manhattan than it is to dump it in a landfill on Staten Island, or release it to the Great Pacific Garbage Patch—though our polluting mores may deem it so. This sort of shift in matter would contradict the normative positionality and visibility of dirt." Janet Walker, "Afterword: Climate Change as 'Matter out of Phase.'" *Saturation: An Elemental Politics,* eds. Melody Jue and Rafico Ruiz (Durham: Duke University Press,2021), 306–307. ↩

33. Brian Larkin, "The Politics and Poetics of Infrastructure," *Annual Review of Anthropology* 42, no. 1 (2013): 327–343, https://doi.org/10.1146/annurev-anthro-092412-155522 <

https://doi.org/10.1146/annurev-anthro-092412-155522> . ↩

34. In July 2021, members of the US House of Representatives introduced HR 4099, a bill that seeks to remedy ongoing drought conditions in California and other Western states by instituting infrastructures that would extract potable water from wastewater. The cost is estimated at $750 million. ↩

35. We build our thinking about hygiene theater and contaminated imaginaries, particularly in regard to designated waste sites, from Pezzullo's work on toxicity. Pezzullo writes that "the creation of these 'separate areas of existence' enables our culture more readily to dismiss the costs of toxic pollution because the waste and the people most affected by the waste appear hidden within their proper place" (5). Citing Robert R. Higgens, Pezzullo argues that waste sites are "deemed culturally to be 'appropriately polluted spaces,' such as neighborhoods of people of color and low-income communities," demonstrating the racialized lines cultural constructions of cleanliness falls along (5). Phaedra Pezzullo, *Toxic Tourism: Rhetorics of Pollution, Travel, and Environmental Justice* (Tuscaloosa: University of Alabama Press, 2007). ↩

36. Taking up a humanities-based approach to the study of infrastructure, we also conceive of Sage's participation in the tour as following in the footsteps of Lisa Parks, who outlines a critical humanities methodology for studying infrastructure. Parks explains:

    > I have tried to develop a critical methodology for analyzing the significance of specific infrastructural sites and objects in relation to surrounding environmental, socio-economic, and geopolitical conditions. This critical methodology involved site visits and physical investigations of infrastructural objects, using personal observation, photography, maps, video, art, drawings, and other visualizations. These observations and mediations are intended to foster infrastructural intelligibility into discrete parts and framing them as objects of curiosity, investigation, and/or concern.

    Lisa Parks, "Stuff You Can Kick: Toward a Theory of Media Infrastructures," *Between Humanities and the Digital*, ed. Patrik Svensson and David Theo Goldberg (Boston: MIT Press, 2015), 355–373. ↩

37. Pezzullo outlines at length the myriad problematic perceptions and structural issues surrounding tourism, while reserving the possibility that "practices of tourism may be motivated by our more admirable desires for fun, connection, difference, civic spirit, social and environmental change, and education." Pezzullo, *Toxic Tourism*, 3. *It is these later drivers, environment, education, and connection, that shape my experience as a wastewater tourist*. ↩

38. Derek Thompson, "Hygiene Theater is a Huge Waste of Time," *Atlantic*, July 27, 2020, https://www.theatlantic.com/ideas/archive/2020/07/scourge-hygiene-theater/614599/ < https://www.theatlantic.com/ideas/archive/2020/07/scourge-hygiene-theater/614599/> . ↩

39. Alexis Shotwell, *Against Purity: Living Ethically in Compromised Times* (Minneapolis: University of Minnesota Press, 2016), 4. ↩

40. CDC, "National Wastewater Surveillance System," March 19, 2021, https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/wastewater-surveillance.html < https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/wastewater-surveillance.html> . ↩

41. Los Angeles County Department of Public Health, "COVID-19," January 11, 2021, http://www.publichealth.lacounty.gov/media/Coronavirus/docs/people/GuidanceSex.pdf < http://www.publichealth.lacounty.gov/media/Coronavirus/docs/people/GuidanceSex.pdf> . ↩

42. These guidelines would seem to disallow any form of sexual contact; this is not the case. For example, the province of British Columbia encouraged the use of "glory holes," which provides a potentially safer, contactless mode of sexual engagement. They suggest that individuals should "use barriers, like walls (e.g., glory holes), that allow for sexual contact but prevent close face-to-face contact." Concerns over fecal contamination remain though, even with barriers like glory holes. https://web.archive.org/web/20200710013558/http://www.bccdc.ca/health-info/diseases-conditions/covid-19/prevention-risks/covid-19-and-sex <

https://web.archive.org/web/20200710013558/http:/www.bccdc.ca/health-info/diseases-conditions/covid-19/prevention-risks/covid-19-and-sex> . ↩

43. Leo Bersani, *Is the Rectum a Grave? And Other Essays* (Chicago: University of Chicago Press, 2009). ↩

44. In late June 2021, Moderna—one of the three pharmaceutical companies with FDA approval for a COVID-19 vaccination—announced that it would use the same mRNA technologies to further trial an HIV vaccine. Indeed, the groundwork for the COVID-19 vaccination was predicated on ongoing research that had, before the pandemic, focused on HIV. Claire Wolters, "Moderna to Trial HIV and Flu Vaccines With mRNA Technology," VeryWell Health, accessed July 9, 2021, https://www.verywellhealth.com/moderna-to-trial-hiv-and-flu-vaccines-5189912 < https://www.verywellhealth.com/moderna-to-trial-hiv-and-flu-vaccines-5189912> . ↩

45. CDC, "COVID-19 and HIV," October 20, 2020, https://www.cdc.gov/hiv/basics/covid-19.html < https://www.cdc.gov/hiv/basics/covid-19.html> . ↩

46. See, for example, Western Cape Department of Health, "Risk Factors for Coronavirus Disease 2019 (COVID-19) Death in a Population Cohort Study from the Western Cape Province, South Africa," *Clinical Infectious Diseases* (2020): 1–11; H. Miyashita and T. Kuno, "Prognosis of Coronavirus Disease 2019 (COVID-19) in Patients with HIV infection in New York City" *HIV Medicine* 22 (2021): e1–e2. ↩

47. See Zygmunt Bauman for an additional reading of "wasted lives," which for Bauman include the indigent and stateless. Zgymunt Bauman, *Wasted Lives: Modernity and its Outcasts* (Cambridge: Harvard University Press, 2003). ↩

48. On surveillance societies, see, for example, David Lyon, Simone Browne, and Christina Sharpe. David Lyon, *Surveillance Society: Monitoring Everyday Life* (London: Open University Press, 2001); Simone Browne, *Dark Matters: On the Surveillance of Blackness* (Durham: Duke University Press, 2015); Christina Sharpe, *Into the Wake: On Blackness and Being* (Durham, NC: Duke University Press, 2016). ↩

49. Reuters Staff, "Chinese Cities Using Anal Swabs to Screen COVID-19 Infections," *Reuters*,January 27, 2021, https://www.reuters.com/article/us-health-coronavirus-china-testing/chinese-cities-using-anal-swabs-to-screen-covid-19-infections-idUSKBN29W1RN < https://www.reuters.com/article/us-health-coronavirus-china-testing/chinese-cities-using-anal-swabs-to-screen-covid-19-infections-idUSKBN29W1RN> . ↩

50. Gabriel Borrud and Conor Dillon, "Anal COVID-19 Swabs in China —'We just don't know if it's necessary,'" *DW*, May 3, 2021, https://www.dw.com/en/anal-covid-19-swabs-in-china-we-just-dont-know-if-its-necessary/a-56789975 < https://www.dw.com/en/anal-covid-19-swabs-in-china-we-just-dont-know-if-its-necessary/a-56789975> ↩

51. Neel Ahuja, "Intimate Atmospheres: Queer Theory in a Time of Extinctions," *GLQ* 21, no. 2–3 (2015): 367, https://doi.org/10.1215/10642684-2843227 < https://doi.org/10.1215/10642684-2843227> . ↩

52. *The "I" writing here is Jeremy.* ↩

53. John Peeler, "Bedrock: Genesis and Evolution of a Republican Bastion, Union County, Pennsylvania," presentation, Bucknell Faculty Colloquium, Lewisburg, Pennsylvania, April 1, 2013, https://digitalcommons.bucknell.edu/fac_coll/8/ < https://digitalcommons.bucknell.edu/fac_coll/8/> . ↩

54. *Other forms of Sinophobia that operate widely among gay male circles, under the guise of preference (i.e. discriminatory slogans such as "No Fats, No Fems, No Blacks, No Asians"), are known to me, though space here limits further reflection.* ↩

55. See Ahuja for an incisive overview of how populations of color bore the early brunt of COVID-19 infections on Long Island, which established forms of "herd immunity" that ultimately benefited white populations and thus incited anti-mask and anti-vaccination vitriol precisely because the viral effects experienced by white populations were less intense than those faced by Black and Latinx populations. Neel Ahuja, "Herd Racialization and the Inequalities of Immunity," *American Quarterly*, forthcoming. ↩

56. Rachel Brown, "Pasadena Cancels COVID-19 Vaccine Clinic after Hundreds of Ineligible People Make Appointments," *ABC 7 News*,March 9. 2021, https://abc7.com/pasadena-vaccine-clinic-canceled-line-jumpers-california-coronavirus/10400675/ < https://abc7.com/pasadena-vaccine-clinic-canceled-line-jumpers-california-coronavirus/10400675/> . ↩

57. UNAIDS, "Global HIV & AIDS statistics — 2020 fact sheet," 2021, https://www.unaids.org/en/resources/fact-sheet < https://www.unaids.org/en/resources/fact-sheet> . ↩

58. See Cathy Cohen for an extended discussion of Blackness and AIDS. Cathy Cohen*, The Boundaries of Blackness: AIDS and the Breakdown of Black Politics* (Chicago: University of Chicago Press, 1999). ↩

59. HIV.gov, "US Statistics," 2021, https://www.hiv.gov/hiv-basics/overview/data-and-trends/statistics < https://www.hiv.gov/hiv-basics/overview/data-and-trends/statistics> . ↩

60. Additional infrastructural ruptures were reported in January 2022 too. ↩

61. Li Cohen, "Toxic Wastewater Reservoir on Verge of Collapse in Florida Could Cause 'Catastrophic Event,'" *CBS News*, April 6, 2021, https://www.cbsnews.com/news/florida-state-of-emergency-wastewater-leak-verge-catastrophe/ < https://www.cbsnews.com/news/florida-state-of-emergency-wastewater-leak-verge-catastrophe/> . ↩

62. For more on the ways that prisons are sites of environmental injustice, and how prison abolition is an environmental justice issue, see David Pellow. David Pellow, *What is Critical Environmental Justice?* (New York: Polity, 2017). ↩

63. EPA, "Radioactive Material From Fertilizer Production," December 2, 2020, https://www.epa.gov/radtown/radioactive-material-fertilizer-production < https://www.epa.gov/radtown/radioactive-material-fertilizer-production> . ↩

64. Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011). ↩

65. Nikki Fried (NikkiFriedFL), "I have requested that @GovRonDeSantis convene an emergency meeting of the Florida Cabinet for a briefing by @FLDEPNews Secretary @NoahValenstein," Twitter image, April 3, 2021, 2:21 PM. https://twitter.com/NikkiFriedFL/status/1378410018760953858 < https://twitter.com/NikkiFriedFL/status/1378410018760953858> . ↩

66. BBC News, "Fukushima: Japan Approves Releasing Wastewater into Ocean," April 21, 2021, https://www.bbc.com/news/world-asia-56728068 < https://www.bbc.com/news/world-asia-56728068> . ↩

67. Morrison likewise addresses the various timescales that impact waste and vice versa, especially in light of the Anthropocene's correspondence with the "fecocene." Susan Signe Morrison, "Waste," *The Cambridge Companion to Environmental Humanities*, ed. Jeffrey Jerome Cohen and Stephanie Foote (Cambridge: Cambridge University Press, 2021), 231. ↩

68. Elizabeth DeLoughrey, *Allegories of the Anthropocene* (Durham, NC: Duke University Press, 2019), 102. ↩

69. DeLoughrey, *Allegories of the Anthropocene,* 101. ↩

70. Puig De La Bellacasa further explains "that an ethical reorganization of human-nonhuman relations is vital, but what this means in terms of caring obligations that could enact nonexploitative forms of togetherness cannot be imagined once for all." María Puig De La Bellacasa, *Matters of Care: Speculative Ethics in More Than Human Worlds* (Minneapolis: University of Minnesota Press, 2017), 24. ↩

71. Liboiron, *Pollution is Colonialism*. ↩

72. *I own up to my ambivalence thanks to Nicole Seymour's focus on ambivalence in* Bad Environmentalism*, which embraces "the contradictions, complications, and ambivalences of environmental humanities scholarship," and María Puig De La Bellacasa use of ambivalence to*

critique "the generic notion of care," explaining that her project's "ambivalences deepened without diminishing the urge to keep practices of care within our thinking spectrum when seeking ways of living together as well as possible." Nicole Seymour, *Bad Environmentalism: Irony and Irreverence in the Ecological Age* (Minneapolis: University of Minnesota Press, 2018), 28. Puig De La Bellacasa, *Matters of Care,* 24. ↩

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